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AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (currently amended): A frequency hopping
2 communications device for transmitting signals on a
3 plurality of M subcarrier signals in parallel, each of said
4 M subcarrier signals corresponding to a different one of M
5 subcarrier signal frequencies, said M subcarrier signal
6 frequencies being a subset of N subcarrier frequencies on
7 which said communications device may transmit signals over
8 time, where M and N are positive integers and where $M < N$,
9 said frequency hopping communications device including:
10 a frequency control circuit for controlling which of
11 the N subcarrier frequencies are generated and used by said
12 device for the transmission of signals;
13 a plurality of M separate subcarrier signals paths
14 operating in parallel, each of the M subcarrier signal
15 paths including a programmable signal generator coupled to
16 said frequency control circuit, a power amplification
17 circuit and a filter circuit, said programmable signal
18 generator for generating a subcarrier signal determined by
19 said frequency control circuit and having a subcarrier
20 frequency corresponding to said subcarrier signal path to
21 which said signal generator corresponds; and
22 a combining circuit for combining analog subcarrier
23 signals corresponding to different subcarrier signal paths
24 prior to transmission.

1 Claim 2 (original): The device of claim 1, wherein each of
2 the M signal filter circuits, that each correspond to a
3 different one of said M signal paths, is a fixed filter, at
4 least one of the M fixed filters having a passband

5 bandwidth at least equal to Y times the average frequency
6 spacing between the N frequencies that said device can use
7 as the N subcarrier frequencies, where Y is a positive
8 number greater than 1.

1 Claim 3 (currently amended): The device ~~method~~ of claim 2,
2 wherein $Y \geq N$ divided by M.

1 Claim 4 (currently amended): The device ~~method~~ of claim 2,
2 wherein Y is at least as large as N.

1 Claim 5 (currently amended): The device ~~method~~ of claim 2,
2 wherein each of said M signal filter circuits are identical
3 fixed filters each having a passband bandwidth covering the
4 full set of N subcarrier signal frequencies which may be
5 used by said device.

1 Claim 6 (currently amended): The device ~~method~~ of claim 5,
2 wherein the M subcarrier signals are OFDM subcarrier
3 signals and where the N subcarrier frequencies are evenly
4 spaced frequencies.

1 Claim 7 (original): The device of claim 2, wherein the
2 fixed filter included on each of said M signal paths is
3 positioned in series with said corresponding power
4 amplification circuit either before or after the
5 corresponding power amplification circuit.

1 Claim 8 (original): The device of claim 7,
2 wherein the programmable signal generator included in
3 each subcarrier signal path generates an analog subcarrier
4 signal; and

5 wherein said power amplification circuit and said
6 filter circuit included in each subcarrier signal path are
7 analog circuits.

1 Claim 9 (original): The device of claim 1, wherein each of
2 the M signal filter circuits, that each correspond to a
3 different one of said M signal paths, is a programmable
4 filter.

1 Claim 10 (original): The device of claim 9, wherein each
2 of the M programmable filters has a passband corresponding
3 to the subcarrier signal frequency of the subcarrier signal
4 generated by the programmable signal generator circuit
5 included on the same subcarrier signal path as the
6 programmable filter.

1 Claim 11 (original): The device of claim 10, wherein the
2 programmable filters have a passband which has a bandwidth
3 sufficient to pass said subcarrier signal but reject the
4 nearest neighboring one, in frequency, of said N subcarrier
5 signals.

1 Claim 12 (original): The device of claim 9, wherein said
2 device further transmits information using at least one
3 additional preselected subcarrier frequency, the device
4 further comprising:
5 an additional subcarrier signal path including an
6 amplifier and fixed filter for amplifying and filtering a
7 subcarrier signal corresponding to said additional
8 preselected subcarrier frequency.

1 Claim 13 (original): The device of claim 12, where said
2 additional subcarrier frequency corresponds to a control
3 channel used to transmit control information.

1 Claim 14 (currently amended): A frequency hopping
2 communication method for use in a communications system
3 wherein a device can transmit information using M
4 subcarrier signals at a time, each of the M subcarrier
5 signals corresponding to a different subcarrier frequency,
6 where M and N are positive integers and where M is less
7 than N and where N is the total number of different
8 subcarrier frequencies said device can use over time, the
9 method comprising:
10 i) operating M programmable signal generators to
11 generate said M subcarrier signals;
12 ii) separately processing each of the M
13 subcarrier signals to produce M processed subcarrier
14 signals, the processing of each of said M subcarrier
15 signals including a amplification operation and a filtering
16 operation, said separate processing thus including M
17 separate filtering operations; and
18 iii) combining the M processed subcarrier signals
19 to generate a frequency division multiplexed transmission
20 signal;
21 iv) controlling at least one of said M
22 programmable signal generators to change the frequency of
23 the subcarrier signal generated by said at least one
24 programmable signal generator; and
25 v) repeating steps (i), (ii), and (iii).

1 Claim 15 (original): The method of claim 14, wherein said
2 M subcarrier signals are analog signals and wherein said
3 filtering operation is an analog filtering operation.

1 Claim 16 (original): The method of claim 14, wherein said
2 M separate filtering operations are performed using M
3 separate fixed filters, at least one of the M fixed filters
4 having a bandwidth at least equal to Y times the average

5 frequency spacing between the N frequencies that said
6 device can use as the N subcarrier frequencies, where Y is
7 a positive number greater than 1.

1 Claim 17 (original): The method of claim 16, wherein $Y \geq N$
2 divided by M.

1 Claim 18 (original): The method of claim 16, wherein Y is
2 equal to or greater than N.

1 Claim 19 (original): The method of claim 15, wherein said
2 M separate filtering operations are performed using
3 identical fixed filters each having a bandwidth covering
4 the full set of N subcarrier signal frequencies which may
5 be used by said device.

1 Claim 20 (original): The method of claim 19, wherein the N
2 subcarrier signals are OFDM subcarrier signals.

1 Claim 21 (original): The method of claim 14, wherein said
2 M separate filtering operations are performed using M
3 separate programmable filters, the frequency of each of
4 each of the M programmable filters corresponding to the
5 frequency of the subcarrier signal being filtered.

1 Claim 22 (original): The method of claim 14, further
2 comprising:
3 changing the amount of power amplification performed
4 on one of the M subcarrier signals when the frequency of
5 said subcarrier signal is changed.

1 Claim 23 (original): The method of claim 16, wherein
2 controlling at least one of said M programmable signal

generators to change the frequency of the subcarrier signal includes:

operating said M programmable generators to switch from generating a first set of M subcarrier signals corresponding to a first set of M uniformly spaced subcarrier frequencies to generating a second set of M subcarrier signals corresponding to a second set of M uniformly spaced subcarrier frequencies, a first subcarrier frequency in said first set of M subcarrier frequencies being separated from a first subcarrier frequency in said second set of M subcarrier frequencies by a frequency spacing that is less than Y times the frequency spacing between subcarrier signals in said first and second sets of M subcarrier signals.

Claim 24 (new): A frequency hopping communications device for transmitting signals on a plurality of M subcarrier signals in parallel, each of said M subcarrier signals corresponding to a different one of M subcarrier signal frequencies, said M subcarrier signal frequencies being a subset of N subcarrier frequencies on which said communications device may transmit signals over time, where M and N are integers and where $M < N$, said frequency hopping communications device including:

frequency control means for controlling which of the N subcarrier frequencies are generated and used by said device for the transmission of signals;

a plurality of M separate subcarrier signals paths operating in parallel, each of the M subcarrier signal paths including a programmable signal generator means for generating a corresponding one of the M subcarrier signals, power amplification means for amplifying the corresponding one of the M subcarrier signals and filter means for filtering the corresponding one of the M subcarrier

1 signals, said programmable signal generator means
2 generating a subcarrier signal determined by said frequency
3 control means and having a subcarrier frequency
4 corresponding to said subcarrier signal path to which said
5 signal generator corresponds; and
6 combining means for combining analog subcarrier
7 signals corresponding to different subcarrier signal paths
8 prior to transmission.

1 Claim 25 (new): The device of claim 24, wherein each of
2 the M signal filter means is a fixed filter, at least one
3 of the M fixed filters having a passband bandwidth at least
4 equal to Y times the average frequency spacing between the
5 N frequencies that said device can use as the N subcarrier
6 frequencies, where Y is a positive number greater than 1.

1 Claim 26 (new): The device of claim 25, wherein $Y \geq N$
2 divided by M.

1 Claim 27 (new): The device of claim 25, wherein Y is at
2 least as large as N.

1 Claim 28 (new): The device of claim 25, wherein each of
2 said M signal filter means are identical fixed filters each
3 having a passband bandwidth covering the full set of N
4 subcarrier signal frequencies which may be used by said
5 device.

1 Claim 29 (new) A computer readable medium including machine
2 executable instructions for controlling a communications
3 device to implement the steps of a frequency hopping
4 communication method, the method being for use in a
5 communications system wherein a device can transmit
6 information using M subcarrier signals at a time, each of

7 the M subcarrier signals corresponding to a different
8 subcarrier frequency, wherein M and N are integers and
9 where M is less than N and where N is the total number of
10 different subcarrier frequencies said device can use over
11 time, the method comprising the steps of:

12 i) operating M programmable signal generators to
13 generate said M subcarrier signals;

14 ii) separately processing each of the M
15 subcarrier signals to produce M processed subcarrier
16 signals, the processing of each of said M subcarrier
17 signals including a amplification operation and a filtering
18 operation, said separate processing thus including M
19 separate filtering operations; and

20 iii) combining the M processed subcarrier signals
21 to generate a frequency division multiplexed transmission
22 signal;

23 iv) controlling at least one of said M
24 programmable signal generators to change the frequency of
25 the subcarrier signal generated by said at least one
26 programmable signal generator; and

27 v) repeating steps (i), (ii), and (iii).